ABSTRACT

Managing packets in a shared memory buffer involves linking buffered packets into a linked list in the order that the packets are written into the shared memory buffer, examining the packets in the order of the linked list to determine which packets are intended for available output links, and then dispatching the oldest packet that is intended for an available output link even if the packet is preceded on the linked list by packets that are older but are intended for unavailable output links. Packets are stored with NEXT pointers that establish the linked list and output link identifiers that identify the intended output links of the packets. The head of the linked list is identified by a linked list HEAD pointer. When a packet is dispatched, the packet is removed from the linked list by adjusting the linked list HEAD pointer or the NEXT pointer of the previous packet.